A NEW INFUSORIAN PARASITE IN SAND FLEAS*

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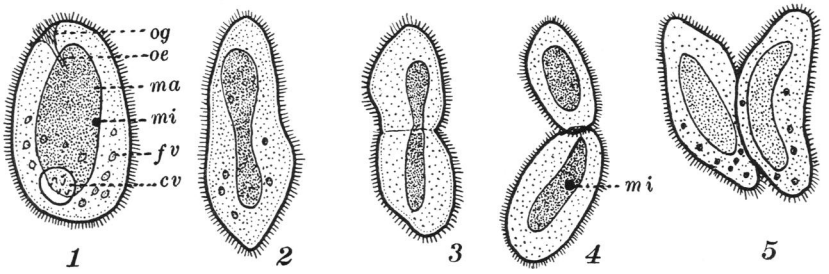
While examining some sand fleas on the shores of Long Island Sound for gregarine parasites, the writer found two hosts infected with an infusorian parasite; one of the hosts being the common small flea, *Orchestia agilis,* the other the larger *Talorchestia longicornis.* The two infected hosts were found in the same habitat and on the same day. The infusoria were found in only these two instances out of about 300 fleas examined for gregarines. The parasites infect the alimentary tract of the host in great numbers, several hundred being present in each flea.

In the vegetative stage, the animals are broadly ovoidal, tapering slightly at one end (Fig. 1). The macronucleus is very large, and ellipsoidal in shape; it is granular and homogeneous and does not



EXPLANATION OF FIGURE

1. *Balantidium orchestium,* vegetative individual. *Og,* oral groove; *oe,* esophagus; *ma,* macronucleus; *mi,* micronucleus; *fv,* food vacuole; *cv,* contractile vacuole.
2, 3, 4. Three stages in binary fission.
5. Conjugation.

stain deeply with Ehrlich's hematoxylin and acetocarmin. The micronucleus is small and deep staining, and lies contiguous to the macronucleus. The apical or subapical oral groove is small and inconspicuous; it leads to a short slender esophagus. Small contractile vacuoles were observed, not more than one being seen in a single individual. Many small food vacuoles were often present. Cilia of uniform length

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cover the body, those in the oral groove being slightly the longer. The size of vegetative forms ranges from 300 to 360 microns by 180 to 220 microns.

In individuals which are ready for asexual reproduction, the body becomes elongate and tapers at the ends; the macronucleus becomes longer and constricted centrally, at the same time contracting in volume. It also stains more deeply than does that of the vegetative animal (Figs. 2, 3, and 4). When transverse fission is complete, the two nuclei attain their normal vegetative form and density. Conjugation was noted in one instance.

The parasite may be classified as follows:

1. Order Heterotricha: zone of large cilia leading to mouth.
2. Suborder Polytricha: body covered with an even coat of cilia.
3. Family Bursaridae: peristome broad, body broad and large.
4. Genus Balantidium: parasitic, inhabiting the alimentary tract of the host, body ovoidal or ellipsoidal, blunt at ends in vegetative stage, macronucleus ellipsoidal.
5. The parasite is closely allied to *B. coli* Stein and *B. elongatum* Stein; it differs from them in size of the body and in relative size of the nucleus. No previous record of this form has been found.

I wish therefore to designate this species *Balantidium orchestium*.

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References Cited

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